

CLAIMS

1. A method for maintaining an Internet Protocol (IP) session for an
2 access terminal at a first radio network, the method comprising:
 establishing the IP session for the access terminal with a network
4 element via the first radio network;
 receiving a request to maintain the IP session if the access terminal is
6 not tuned to the first radio network;
 receiving a forwarding address for the access terminal;
8 receiving an indication that the access terminal is not tuned to the first
radio network;
10 receiving a first packet for the access terminal;
 sending a second packet in response to reception of the first packet,
12 wherein the second packet is addressed to the access terminal using the
forwarding address;
14 establishing a connection with the access terminal; and
 sending the first packet to the access terminal.

2. The method of claim 1, wherein the access terminal is assigned a
2 first address for the IP session established via the first radio network.

3. The method of claim 2, wherein the first packet is received from the
2 network element and addressed to the access terminal using the first address.

4. The method of claim 1, wherein the second packet is sent to the
2 network element.

5. The method of claim 1, wherein the indication that the access
2 terminal is not tuned to the first radio network is received via a message sent
by the access terminal.

6. The method of claim 1, wherein the indication that the access
2 terminal is not tuned to the first radio network is acknowledged by receipt of an

indication that the access terminal has dropped traffic channel assigned to the
4 access terminal by the first radio network.

7. The method of claim 1, further comprising:
2 receiving an indication of a particular time period to maintain the IP
session; and
4 maintaining the IP session for the particular time period.

8. The method of claim 1, further comprising:
2 periodically receiving a request to keep alive the IP session.

9. The method of claim 1, wherein the second packet indicates that the
2 first radio network has data for the access terminal.

10. The method of claim 2, wherein the first address is a globally
2 routable IP address.

11. The method of claim 1, wherein the forwarding address is a locally
2 routable IP address.

12. The method of claim 1, wherein the network element is a packet
2 data serving node (PDSN).

13. A method for maintaining an Internet Protocol (IP) session for an
2 access terminal at a first radio network, the method comprising:

establishing the IP session for the access terminal with a network
4 element via the first radio network, wherein the access terminal is assigned a
first address for the IP session;

6 receiving a request to maintain the IP session if the access terminal is
not tuned to the first radio network;

8 receiving a forwarding address for the access terminal;

receiving an indication that the access terminal is not tuned to the first
10 radio network;

receiving a first packet from the network element and addressed to the
12 access terminal using the first address;

14 sending a second packet to the network element in response to
reception of the first packet, wherein the second packet is addressed to the
access terminal using the forwarding address and indicates that the first radio
16 network has data for the access terminal;
establishing a connection with the access terminal; and
18 sending the first packet to the access terminal.

14. A method for maintaining an Internet Protocol (IP) session for an
2 access terminal at a first radio network, the method comprising:
establishing the IP session with a network element via the first radio
4 network;
establishing a second session with a second radio network;
6 sending to the first radio network a request to maintain the IP session if
not tuned to the first radio network;
8 sending a forwarding address to the first radio network;
receiving a communication from the second radio network;
10 establishing a connection with the first radio network in response to the
received communication; and
12 receiving a packet from the first radio network.

15. The method of claim 14, wherein the communication received from
2 the second radio network is a page.

16. The method of claim 14, further comprising:
2 receiving an assignment of a first address for the IP session.

17. The method of claim 16, further comprising:
2 requesting for assignment of the first address for the IP session, and
wherein the first address is assigned in response to the request.

18. The method of claim 16, wherein the first address is associated with
2 an identifier assigned to the access terminal by the first radio network.

19. The method of claim 18, wherein the identifier is a Unicast Access
2 Terminal Identifier (UATI).

20. The method of claim 16, wherein the packet received from the first
2 radio network includes the first address as a destination address.

21. The method of claim 14, further comprising:
2 receiving an assignment of a second address for the second session
established via the second radio network, and
4 wherein the second address is sent to the first radio network as the
forwarding address.

22. The method of claim 21, wherein the second address is associated
2 with an International Mobile Station Identification (IMSI) assigned to the access
terminal.

23. The method of claim 14, further comprising:
2 maintaining a protocol stack for the IP session and the second session.

24. The method of claim 23, wherein the protocol stack include
2 addresses assigned for the IP and second sessions established via the first
and second radio networks, respectively.

25. The method of claim 14, further comprising:
2 maintaining identity of a particular radio network to which the access
terminal is currently tuned.

26. The method of claim 15, further comprising:
2 sending an acknowledgement to the second radio network in response
to reception of the page.

27. The method of claim 14, wherein the first radio network is a High
2 Data Rate (HDR) radio network.

28. The method of claim 14, wherein the second radio network is a
2 CDMA radio network.

29. A method for maintaining an Internet Protocol (IP) session for an
 2 access terminal at a first radio network, the method comprising:
 establishing the IP session with a network element via the first radio
 4 network;
 receiving an assignment of a first address for the IP session;
 6 establishing a second session with a second radio network;
 receiving an assignment of a second address for the second session;
 8 maintaining a protocol stack for the IP and second sessions, wherein the
 protocol stack includes the first and second addresses to be used for the IP
 10 and second sessions established via the first and second radio networks,
 respectively;
 12 sending to the first radio network a request to maintain the IP session if
 not tuned to the first radio network;
 14 sending the second address as a forwarding address to the first radio
 network;
 16 receiving a page from the second radio network;
 establishing a connection with the first radio network in response to the
 18 received page; and
 receiving a packet from the first radio network.

30. An access terminal comprising:
 2 a transmitter unit operative to receive and code data and messages,
 modulate the coded data, and convert the modulated data into a first
 4 modulated signal suitable for transmission over a transmission medium;
 a receiver unit operative to receive a second modulated signal,
 6 demodulate the received signal to provide demodulated data, and decode the
 demodulated data to recover transmitted data and messages; and
 8 a controller coupled to the transmitter and receiver units and operative to
 direct
 10 establishment of an IP session with a network element via a first
 radio network,
 12 establishment of a second session with a second radio network,
 transmission to the first radio network a request to maintain the IP
 14 session while not tuned to the first radio network,
 transmission of a forwarding address to the first radio network,

16 reception of a communication from the second radio network,
establishment of a connection with the first radio network in
18 response to the received communication from the second radio network,
and
20 reception of a packet from the first radio network.

31. The access terminal of claim 30, further comprising:

2 a protocol stack configured to store information for the IP and second
sessions established via the first and second radio networks, respectively, and
4 wherein the stored information includes addresses to be used for the IP and
second sessions.

32. An access point in a first radio network, comprising:

2 a transmitter unit operative to receive and code data and messages,
modulate the coded data, and convert the modulated data into a first
4 modulated signal suitable for transmission over a transmission medium;

a receiver unit operative to receive a second modulated signal,
6 demodulated the received signal to generate demodulated data, and decode
the demodulated data to recover transmitted data and messages; and

8 a processor coupled to the transmitter and receiver units and configured
to direct

10 establishment of an IP session for an access terminal with a
network element,

12 reception of a request to maintain the IP session if the access
terminal is not tuned to the first radio network,

14 reception of a forwarding address for the access terminal,
reception of an indication that the access terminal is not tuned to
16 the first radio network,

reception of a first packet for the access terminal,
18 transmission of a second packet in response to reception of the
first packet, wherein the second packet is addressed to the access
20 terminal using the forwarding address and indicates that the first radio
network has data for the access terminal,

22 establishment of a connection with the access terminal, and

transmission of the first packet to the access terminal.

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